AMSAT News Service Weekly Bulletins
Issue: ANS-266
Date: 2007-09-23
Sources: amsat-ans-2007-ans-266-weekly.txt

AMSAT NEWS SERVICE
ANS-266

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

********** AMSAT 2007 Space Symposium **********

The Wireless Association of South Hills Amateur Radio Club announces the 2007 AMSAT Space Symposium will be held at the Pittsburgh Airport Marriott Hotel on Friday, October 26 through Sunday, October 28, 2007. The AMSAT web team has posted informational pages on the AMSAT web site. You can find the announcement with many links at:
http://www.amsat.org/amsat-new/symposium/2007/index.php

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SB SAT @ AMSAT $ANS-266.01
AMSAT Board of Directors Election Results

AMSAT News Service Bulletin 266.01
 From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.01

The following candidates were elected to the AMSAT Board of Directors:

Barry Baines , WD4ASW
Drew Glasbrenner, KO4MA
Rick Hambly, W2GPS
Gunther Meisse, W8GSM

Lee Mclamb, KU4OS is the alternate

A total of 871 votes were cast.

[ANS thanks Martha for the above information]

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SB SAT @ AMSAT $ANS-266.02
New AMSAT VP of User Services

AMSAT News Service Bulletin 266.02
 From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.02

It was with great enthusiasm that AMSAT President Rick Hambly, W2GPS, announced the appointment of Gould Smith, WA4SXM, to the position of AMSAT Vice President of User Services. In this position Gould will serve on the Executive Team and will be responsible for the leadership of a team that will include the management of the AMSAT Journal, the AMSAT New Service (ANS), AMSAT HF radio nets, Field Operations, Awards and Contests, the Dayton Hamvention and other duties as may be assigned by the President or the Board.

[ANS thanks Rick, W2GPS, for the above information]

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SB SAT @ AMSAT $ANS-266.03
GO-32 enabled for experimental APRS access

AMSAT News Service Bulletin 266.03
 From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.03

The GO-32 Satellite TECHSAT-1B team has announced experimental 9600 baud APRS access for mobile and tactical APRS on a not-to-interfere basis with the existing PACSAT BBS.

The uplink is possible with 5 Watts on 2 meters, but the downlink is 9 dB worse to an omni antenna on UHF and requires tuning 10 to 20 KHz for Doppler. Currently there are no permanent IGates to bring the downlink into the global APRS system, but it is hoped volunteers will surface with permanent satgates. So initally, do NOT expect to see yourself on FINDU.COM. Enjoy ham radio, Make a contact instead!

Experimental testing shows that an APRS HT with a 19.5" whip can get a lucky shot into this satellite (but not when there is congestion on the uplink). With a handheld beam, it should be no problem for an HT, and the beam is needed on reception anyway. Fifty Watt mobiles should have no problem using a stock mobile whip. Due to the absence of APRS signals to date, we do not have good statistics on reception in a mobile yet...

Operating on a 9600 baud FULL DUPLEX APRS satellite is MUCH different than ARISS, or any of the other 1200 baud APRS PCSATS. Because the turn-around is so fast, you cannot see your own digipeated packets on the same radio (usually)... Please read and understand this entire bulletin before attempting to operate.

The easiest way to get on GO-32 with 9600 baud APRS is to use a Kenwood D7, D700 or D710 radio. These radios since 1998 have been satellite 9600 baud ready, just waiting on a satellite!.

Read these notes on how to operate GO-32 with a D7 or D700:

Set APRS Baudrate to 9600 baud.
Set A band to uplink on 145.93
Set B band to receive 435.225 +/- 10 KHz
Set Path to be via 4XTECH
Set MYCALL to a unique SSID
Set TX method to AUTO
Set TX RATE 1 min for HT. 2 min for D700
Put something useful in your STATUS text maybe describing your setup:
"50W mobile, 1/4 wave, 2m rate" or "5W HT, long whip, 1m rate"

Save in a PM for use anytime you are outside of the terrestrial APRS network.

SATELLITE OPERATING NOTES:

The GO32 uplinks and downlinks are for the PACSAT store and forward system and users. APRS use is on a secondary basis and should not be operated unattended. If you see that the BBS PBLIST is full of other users, do not enable your APRS since the uplink will be busy. Currently the PBLIST is not in APRS format so you cannot see it unless you are running normal packet mode.

On the D700 you can press PMON on the front panel and see these packets... but they FLY by...

ACCESS TIMES: GO-32 is sun synchronous and so it comes over everywhere three times between about 8 AM to Noon and again between 8 PM to midnight local sun time. During these two windows at least one pass each will be an overhead pass which might also work for an HT. The other passes will be lower to the East or West and will work fine for a 50W mobile.

WHAT YOU HEAR: 9600 baud sounds almost exactly like open squelch, though the tuned ear can soon distinguish the difference. Before the pass, set your squelch normally to quiet the speaker. When you hear the satellite, the squelch will open and you may see up to 3 bars on your S meter. Tune to the "best sounding" noise.

DOPPLER: Depending on how low to the horizon you can see, the satelite approaches 10 KHz high at 435.235 MHz... But it is maybe 3000 km away. As it gets higher, and 6 dB closer, it will be on 435.230 MHz, passing through 435.225 published center frequency at the middle point, and then drop down through 435.220 and ending at 435.215.

But since it is 6 to 10 dB closer (and stronger) towards the center of the pass (800 km overhead), the mobile antenna is probably only going to hear the middle 435.230, .225, .220 portion easily. So I would start my receiption at 435.230...

UPLINK CHANNELS: GO-32 allows two APRS uplinks. One is exclusive to D7/D700 tactical position reporting and the other exclusive to messaging. This is in hardware, not policy...

1) All APRS messaging (or fixed station non-Mic-E positions) must use the 145.85 uplink where GO32 only digipeats APRS packets with TOCALLs that begin with the usual "APxxxx". (Even the D7 and D700 use "APKxxx" for messages.)

2) All APRS Mic-E position uplinks (D7, D700 and D710s) must be on 145.93 MHz and they must have the position comment set to "Committed, Special or PRIORITY"... With those comment settings then the TOCALL first LATITUDE digit will be 1,2,3,4,5,6,7 and only these will be accepted by GO32 for digipeating from 145.93.

DATA CARRIER DETECT: The D700 and non(g) model D7's will NOT TX if they are hearing the downlink at the same time due to CARRIER DETECT. The D7(g) model has DCD IGNORE that *will* let it TX anyway. So use separate rigs for TX and for RX if you want to see yourself.

Otherwise stick to the receommended TX rates and know that you are getting in if you stick to the protocol. Sticking to the recommended rates also keeps channel loading low, so that everyone gets in with less congestion.

PERMANENT SATGATES: Here is a great place to use your D7 HT when you are not using it otherwise. Simply connect it to a 19" whip over a ground plane and to your APRS IGate system. The antenna does not even need to be high, since it cannot hear, nor will it be on frequency for low packets near the horizon 3000 km away. Set it to 9600 baud RX and tune to 435.230 (which is 5 KHz high). This Doppler setting will match the stronger signals.

This 19.5" whip (3/4 wave on 435) does not need to see below 25 degrees, since its max gain (almost 7 dB) is between 30 to 70 degrees anwyay. This also protects your HT from lightning, since it can be low, below all of your other antnenas. Yes, your station will only see about 30% of all possible packets and only on the best two passes per day, but combined with dozens of other such unattended SATgates, all packets should be heard somewhere by someone and injected into the APRS Internet system.

Bob Bruinga, WB4APR, reports that he hopes to have an APRS-via-GO32 web page up in a few weeks.

Additional information about GO-32 can be found on the AMSAT web site at:
http://www.amsat.org/amsat-new/satellites/satInfo.php?satID=14&retURL=/satellites/status.php

Good luck!

[ANS thanks Bob, WB4APR, for the above information]

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SB SAT @ AMSAT $ANS-266.04
AO-51 Sputnik 50th Anniversary Special Event

AMSAT News Service Bulletin 266.04
From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.04

AMSAT-NA will mark the 50th anniversary of the launch of Sputnik with a special event on AO-51. AO-51 will rebroadcast original Sputnik telemetry and a congratulatory message to mark the event during passes over North America on the evening of Wednesday, October 3rd in North America, which is early October 4th UTC. At this time, only the passes over North America will be able to carry the special event. Please watch ANS and the amsat-bb mailing list for further information as the date approaches.

[ANS thanks Drew, KO4MA, for the above information]

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SB SAT @ AMSAT $ANS-266.05
Satellite Shorts From All Over

AMSAT News Service Bulletin 266.05
From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.05

Satellite Shorts From All Over

+ Make your room reservations for the 2007 AMSAT Space Symposium in Pittsburgh as soon as possible. Any rooms that have not been reserved by October 8th will be released to the hotel. For the reservation code, go to the AMSAT website and click on the left hand side - AMSAT Symposium. If you have any problems making a reservation, please call Martha in the ASMAST office at (301-589-6062).

+ AMSAT congratulates Ramon Santoyo, XE1KK, who was just elected to the new position of the Secretary for the IARU---Region 2. For those who don't know, Ramon is an active satellite op, goes on many dxpeditions taking satellite gear, and is an all around friend of AMSAT.

+ This is a reminder that the 26th Annual ARRL/TAPR Digital Communications Conference will be held September 28-30, 2007 in Hartford, CT. See http://www.tapr.org/dcc for additional information. The Sunday Seminar will feature AMSAT VP-Engineering and Director, Bob McGwier, N4HY presenting "A Stroll Through Software Radio, Information Theory, and Some Applications".

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT $ANS-266.06
ARISS Status - 17 September 2007

AMSAT News Service Bulletin 266.06
From AMSAT HQ SILVER SPRING, MD.
September 23, 2007
To All RADIO AMATEURS
BID: $ANS-266.06

1. ARISS Contact with M. L. King Academy Successful

On Wednesday, September 12, students attending M. L. King Academy (formerly Alexander Macomb Academy) in Mount Clemens, Michigan experienced an Amateur Radio on the International Space Station (ARISS) contact. Clay Anderson, KD5PLA answered 25 questions put to him by ten students. A crowd of approximately 350 gathered to watch the contact with several television stations and newspapers in attendance to report on the event. The school board director was also present and is now encouraging other schools to submit applications to ARISS. The audio from this contact was fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers. It received 33 connections, including 6 repeater nodes, from 9 countries. Among those listening were China, Trinidad Tobago, Uruguay and Thailand. To view the Macomb Daily article covering the event, see:
http://www.macombdaily.com/stories/091307/loc_students001.shtml

2. Successful ARISS Contact with Westbrook Intermediate

Students from Westbrook Intermediate School in Clear Creek, Texas took part in an Amateur Radio on the International Space Station (ARISS) contact on Friday, September 14. The contact was made possible with the assistance of telebridge station WH6PN in Hawaii. Twenty-four students asked one question each of Clay Anderson, KD5PLA. The audio from this event was fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers, receiving 28 connections from the U.S., Australia, Thailand and England, including 4 repeater nodes.

3. Upcoming School Contacts

An Amateur Radio on the International Space Station (ARISS) contact has been planned for Art and Pat Goforth Elementary School in League City, Texas on Friday, September 28 at 16:04 UTC via the telebridge station WH6PN in Hawaii. The school has a student body of which 25% of the children come from economically disadvantaged families and 12% receive special education. This event is a crew pick of Clay Anderson, KD5PLA.

The Smithsonian National Air and Space Museum in Washington, D.C. has been scheduled for an Amateur Radio on the International Space Station (ARISS) contact on Saturday, September 29 as part of its Family Day, "Commemorating 50 Years in Space." It will take place at 16:28 UTC via the telebridge station WH6PN in Hawaii The overall theme of the day will be to celebrate at least one major event and object in the Museum's collection for each decade of the space age. This event will focus on the ISS and the Shuttle program, and will acknowledge its sponsor, Charles Simonyi, who also participated in ARISS contacts with students while on the ISS. Visitors will be encouraged to participate in hands on activities during their time at the museum. Approximately 15,000 - 20,000 visitors are expected to attend throughout the day. The event will be promoted on the National Air and Space Museum's website, (http://www.nasm.si.edu/events/eventDetail.cfm?eventID=664) advertised by e-flyer to a variety of lists, and have newspaper ads in the Express (a daily tabloid of the Washington Post with a daily circulation of 286,000) and The City Paper, an alternate newsweekly, with a weekly subscription of 85,000.) The audio for this event will be fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) Conference Room servers and into the IRLP Discovery Reflector 9010.

4. Scouts Participate in SuitSat-2 Project

On Saturday, September 15, approximately 58 boys, ages 6-18, from cub scout packs 983, 977, 778, 997, troop 993 and ham radio explorer post 599 in Maricopa, Arizona met to assemble two non-flight safety boxes for SuitSat-2. The scouts also drew pictures to be included on the SuitSat-2 DVD. Afterwards, the older boys were taught how to solder and lace cables. Photos from the explorer scouts may be found on this site: http://www.briansnapped.com/content/pics/SuitSat_2007/

5. ISS Radio Running Packet Operations

On Tuesday, September 11, the Kenwood radio was turned on and configured to run Packet operations. The Amateur Radio community world wide has been very pleased to have this capability restored.

6. Astronaut Training Status

On Wednesday, September 12, astronaut Koichi Wakata, KC5ZTA, participated in a simulated amateur radio school contact. Wakata is slated to fly on the shuttle STS-126 mission.

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Lee McLamb, KU4OS